Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Local Exchange Carrier Line Information Data Base	)	CC Docket No. 92-24
	)	

SUPPLEMENTAL DIRECT CASE OF BELL ATLANTIC

Bell Atlantic[1] hereby provides its response to the third issue identified in the Bureau's March 20 Order Designating Issues for Investigation.[2] Bell Atlantic provided its responses to the first two issues in the Direct Case of Bell Atlantic, filed April 21.

In the course of preparing its direct case, Bell Atlantic discovered minor errors in its cost materials, and the attached workpapers correct these errors. These changes do not require Bell Atlantic to file new rates.

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[1] The Bell Atlantic telephone companies ("Bell Atlantic") are The Bell Telephone Company of Pennsylvania, The Diamond State Telephone Company, the four Chesapeake and Potomac telephone companies, and New Jersey Bell Telephone Company.

[2] *Local Exchange Carrier Line Information Data Base*, CC Docket No. 92-24, DA 92-347 (released Mar. 20, 1992) ("*Designation Order*"). On April 20, 1992, the Bureau granted Bell Atlantic an additional two weeks in which to respond to the cost issues specified in item III of the *Designation Order*. *See* DA 92-495.

III. Are the rate levels established in the tariffs excessive?

1. Bell Communications Research, Inc. has developed a cost model called "Common Channel Signalling Cost Information System" (CCSCIS). Any carrier who relied on CCSCIS to develop its rates must explain why use of such a model is appropriate for common channel signalling services.

Bell Atlantic used CCSCIS to provide cost information for the STP-to-SCP transport charge and for the digital switching components of the STP port termination and validation charges. A complete description of the CCSCIS model is provided in Attachment A. Bell Atlantic believes that this system reasonably allocates costs of equipment used to provide a number of SS7 services.

2. Those carriers who did not use CCSCIS to allocate investment should fully explain how they identified the plant used to provide LIDB service.

Bell Atlantic used other cost study techniques to develop investment costs for other components of the validation charge and for the circuit equipment component of the STP port termination charge. It used an internal study to identify the costs of shared investment (e.g., poles, aerial cable, etc.) to be allocated to the billing validation service. Bell Atlantic also used the actual costs of certain new computer equipment.

3. All filing carriers should provide total investment underlying each of the four rate elements and identify the accounts established by Part 32 of the Commission's Rules, 47 C.F.R. Part 32, in which these investments are recorded.

This information is set out in Attachments B and C.

4. *All filing carriers should identify and fully document all factors applied to the investment identified in response to the requests for information above to develop the rates, cross-referencing to Automated Reporting Management Information System (ARMIS) data where possible.*

The workpapers in Attachment F show the calculations used to derive the factors applied against this investment. They also provide the data underlying the development of the direct costs of providing these services. By rate element, these data present the capital costs (including depreciation, cost of money and income tax as sub-components) and operating expenses (including maintenance, administration and other taxes as sub-components).

Bell Atlantic developed its costs by a four-step process. First, it identified the investment in switching, transport and computer equipment required to provide the services. Second, it developed the underlying direct unit costs by applying Bell Atlantic's annual cost factors for capital costs and operating expenses to the unit investment. Third, overhead loadings were applied to develop fully loaded annual costs.[3] Fourth, in the case of the STP port termination charge, these fully loaded costs were divided by twelve to produce monthly costs.

The workpapers provide information, by jurisdiction, regarding Bell Atlantic's application of its annual cost factors.

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[3] Attachment D provides a detailed explanation of the development of Bell Atlantic's annual cost factors for capital costs and operating expenses and the overhead loadings that were used to develop the Common Channel Signaling Access Service ("CCSAS") and billing validation rates.

There is one workpaper for each Bell Atlantic jurisdiction.[4] In each case, the workpapers present the Part 32 investment accounts used for the STP port termination charge and the billing validation transport and query charges. The results vary by rate element. For example, only Pennsylvania-specific factors are shown for the query transport charge because the links between the STP and the SCP, both located in Pennsylvania, do not involve costs in other jurisdictions. For the validation charge, by contrast, there are jurisdiction-specific factors for Pennsylvania, New Jersey and Virginia because there are LIDB administration centers in these states. Last, regarding the STP port termination charge, jurisdiction-specific factors are shown for Pennsylvania, New Jersey, Virginia, Maryland, West Virginia and the District of Columbia because Bell Atlantic plans to deploy STPs in every jurisdiction except Delaware.

In preparing these workpapers, Bell Atlantic corrected two calculations in the development of the STP port termination charge. These changes do not require changing that charge.[5]

First, Bell Atlantic originally used a simplified annual cost factor at an aggregate level to develop the cost of the processor unit that is part of the CCSAS port termination. This calculation went directly from unit investment to the fully loaded

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[4] There is no workpaper for Delaware because Diamond State serves Delaware with STPs located in Pennsylvania.

[5] As shown on Workpaper F-14, the correction of these errors raised the direct unit cost to $857.57. However, because the original proposed rate of $932.58 recovers these costs, Bell Atlantic does not propose in this filing to change that rate.

costs. In the attached workpapers, Bell Atlantic has corrected for this simplification by applying the four-step process described above.

Second, Bell Atlantic found that annual cost factors for Delaware had been included in the STP port termination costs. These have now been excluded, because Delaware will be served with STPs in Pennsylvania.

As to the LIDB transport and validation rate elements, the preparation of the detailed workpapers revealed that one investment amount had been incorrectly included in the transport rate instead of in the validation rate. The information in Attachments B and C reflects the corrected investment. The workpapers in Attachment F also provide the data underlying the corrected rates for the transport and validation services resulting from this change in investment.

Moving the investment from transport to validation causes the originally proposed transport rate ($.005070 per query) to decrease and the originally proposed validation rate ($.035869 per query) to increase by approximately off-setting amounts. Because each validation necessarily involves transport as well, this shift has no material impact upon net costs. As shown on Workpapers F-15 and F-16, the corrected transport rate is $.0005, and the corrected validation rate is $.0417. The total charge on a per query basis, however, has changed only $.001261 (from $.005070 + .035869 = **$.040939** to $.0005 + .0417 = **$.0422**).

Because these rates are under investigation and given that there is no material impact resulting from this change, Bell Atlantic does not propose to change the rates at this time. Rather, any rate changes that are appropriate will be made after the conclusion of this Commission's investigation.

5. *Bell Atlantic, BellSouth, NYNEX, and Pacific Bell were providing CCS interconnection service under tariff before the filing of the transmittals under investigation in this docket. Those carriers should demonstrate how their CCS interconnection service rates meet the requirements for restructured services in Part 61.49(f) of the Commission's Rules.*

On February 8, 1991, Bell Atlantic filed to provide a "Signaling System #7 Ordering Option" under Transmittal No. 410 as a nonchargeable optional feature. This tariff became effective on May 15, 1991. Pursuant to this tariff, customers needed only request the service and the connections were provided without any separate charge.

More than a year later, the Bureau issued its *Southwestern Bell Order*.[6] That Order specified a flat-rated switched access transport service for SS7 signaling. Accordingly, Bell Atlantic eliminated its nonchargeable SS7 option and replaced it with a chargeable service at the same time as it filed its LIDB tariff. The chargeable service requires customers to purchase 56 kbps links, together with port terminations.

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[6] *Southwestern Bell Telephone Co., Petition for Waiver of Part 69 of the Commission's Rules*, Memorandum Opinion and Order, DA 91-1258 (released Oct. 4, 1991) ("*Southwestern Bell Order*").

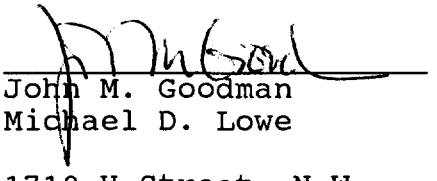
A restructured service "involves the rearrangement of existing services . . . by changing a term or condition, by adding language, or by adding, consolidating, or eliminating rate elements. When a service has been restructured, the previous version of that service no longer exists."[7]

Bell Atlantic's new offering of SS7 interconnection is a restructured service for purposes of price caps. It has new rate elements for the identical service capabilities. In addition, the previous form of the service no longer exists -- a customer can no longer request SS7 signaling as a nonchargeable option.

Respectfully submitted,

The Bell Atlantic Telephone Companies

By Their Attorneys



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May 5, 1992

[7] *Policy and Rules Concerning Rates for Dominant Carriers*, Second Report and Order, 5 FCC Rcd 6786 at ¶ 314.

ATTACHMENTS

ATTACHMENT A

COMMON CHANNEL SIGNALING COST INFORMATION SYSTEM (CCSCIS)

1. Introduction

The Common Channel Signaling Cost Information System (CCSCIS) is used to develop the costs of services which use common channel signaling (CCS) equipment. CCSCIS was developed and is maintained by Bellcore, with the cooperation of equipment manufacturers. Bell Atlantic uses CCSCIS to cost common channel signaling based services, such as LIDB billing validation.

This Attachment (1) briefly describes what CCS networks are and how they are used to provide CCS services; (2) discusses the basic requirements for a CCS service cost model; and (3) describes CCSCIS and explains how it satisfies those requirements.

2. Description of CCS Networks and Services

Bell Atlantic uses CCS networks to provide many services including basic intraLATA and access call services, as well as vertical services. CCS networks are used to send signaling messages between Service Switching Points (SSPs, or switches with signaling capabilities). CCS networks also are used to send messages between SSPs and Service Control Points (SCPs, or databases with network control information). The LIDB would be considered part of an SCP.

CCS message content is defined in the rules and requirements for the SS7 protocol. These messages carry information used by the SSPs to route or control calls. They travel between signaling points (SSPs and SCPs) on signaling links (facilities which carry only SS7 messages) and through Signal Transfer Points (packet switches which route the signaling messages).

For ordinary intraLATA calls, SS7 messages are sent between the originating switch, any intermediate tandem switches, and the terminating switch, using signaling links which connect the switches to the associated STPs. The CCS messages are typically used to help set up the call. In the case of ordinary access services, the same CCS equipment is used, with the addition of links between Bell Atlantic's CCS network and the Signaling Point Of Interface (SPOI, or connection to an interexchange carrier's CCS network).

Vertical services which use CCS networks can be classified as either circuit-based services or database services. For circuit-based services such as CLASS, signaling messages are sent directly from the originating switch to the terminating switch by way of STPs and the connecting signaling links. For CCS

database services, a switch requests information from an SCP by sending a message or query to the SCP.[1] This message may pass from the switch to a local (LATA or state) STP and then directly to the SCP, or it may pass through two STPs (local and regional) before it is transferred to the SCP. If the query is sent to an SCP owned by another company, the query traverses multiple links and STPs and at least two different CCS networks before it reaches the destination SCP.

Each element in a CCS network can be used for a different mix of services. Signaling links between SSPs and STPs, together with the associated link termination equipment on the STP, are used for basic intraLATA and access services, as well as for database and circuit-based services. Signaling links between local and regional STPs and associated STP link termination equipment are used for different database services. Signaling links between regional STPs and SPOIs and associated STP link termination equipment carry database queries (i.e., LIDB) and/or signaling messages for call setup. Links between local STPs and SPOIs and associated STP link termination equipment carry signaling messages for call setup. Links from STPs to SCPs and associated STP link termination equipment are used only by services provided by the SCP.

In addition, STPs may provide additional functions for some services. Global Title Translation (GTT, or SS7 address translations) or Gateway Screening (screening of messages entering from other networks) may require additional processing equipment at an STP. GTTs are used for database queries and some circuit-based messages. Gateway screening is required for all incoming intercompany trunk signaling messages and database queries.

Most CCS associated equipment and facilities provide multiple services. The shared use of equipment and facilities therefore must be accounted for in determining the cost of providing a specific CCS-based service.

3. Basic requirements for a CCS service cost model

An effective CCS service cost model must be able to develop costs for equipment that is shared by a changing mix of services. An effective model needs to first develop an engineering based "bottom up" cost. These costs must recognize the fact that this CCS equipment is shared by many different services and is used in varying degrees and in different ways. Determining the cost of a CCS service, therefore, requires a detailed analysis of each part of the network, and a determination of how it is used by the various services. The objective of the model must be to develop basic common denominators of cost that can be combined in various

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[1]The LIDB SCP is in the Philadelphia LATA.

ways to obtain total service costs for a specific service application.

The second requirement for an effective CCS cost model is that it must produce forward-looking costs which are long term and stable. The requirement for forward looking costs is mandated by the economic need to associate the cost of service with current and/or projected costs that are stable and which can, therefore, accommodate the rapid evolution of CCS networks and the services which use them.

The third requirement is the need for the model to produce usage-based costs. Where there is shared equipment with discrete capacity limitations, the costs of such equipment must be determined as a function of the limits of its capacity. When this capacity is exhausted, investments in additional equipment will be required. Therefore, for each unit of capacity, a cost based on the investments required for that capacity should be determined. Conversely, for equipment with very large capacities, the cost should be a function of the partial and varying utilization of the capacity.

4. Description of CCSCIS

Common Channel Signaling Cost Information System (CCSCIS) uses engineering models of SCPs, STPs, and a CCS link network to develop costs. Each cost model identifies the equipment costs associated with the function. These CCS costs can be used with other cost information to determine the total costs of switched or network based services. For services which use only the CCS network, CCSCIS provides the overall cost of service.

CCSCIS currently contains seven separate equipment models (three STP models, three SCP models and an SS7 link model) and an aggregation model. The current system release contains models for STPs manufactured by three different vendors: AT&T Technologies, DSC Communication Corp., and Northern Telecom Inc. The modeled SCPs include SCPs made by Digital Equipment Corporation and a model of an Ericsson SCP. The Link Model examines several types of CCS links, each of which may contain many different transmission technologies. The Aggregation Model combines the outputs of each model to determine combinations of unit investments and costs useful to calculate service costs. New models are constructed as new types of CCS equipment are installed. Additionally, equipment prices are regularly updated, and models are revised to include additional functions and engineering changes as warranted.

The first step in the development of the CCSCIS model was to obtain engineering data and technical information from vendors or network architects. This information includes: long range product development and delivery schedules, detailed technical descriptions of equipment architecture, current hardware

engineering rules and engineered capacities, available engineering and pricing tools, detailed descriptions of any service-specific functions, discounting schemes and resource consumptions of various services or functions.

Once the functional characteristics of each piece of equipment are determined, the cost categories represented by the functions and the cost characteristics of each category are identified and the equipment is "partitioned". That is, each piece of equipment is analyzed and mapped into one or more cost categories by examining the engineering rules and equipment functions. Equipment in each category is then mathematically analyzed to determine the cost of the category.

The costs of different equipment categories are translated into unit investments using the limiting capacities of the equipment and algorithms that account for multiple investments within a category at varying times during the study period, changing equipment capacities, sharing of equipment, and multiple functions of equipment. The effects of partial and varying utilization of the equipment is also accommodated under various scenarios by examining the effects of service demands on each equipment category.

Although the equipment cost models in CCSCIS differ by equipment type and vendor, the user inputs required can be classified into four standard categories. The first category defines the cost study parameters or assumptions. Examples include the cost methodology chosen (i.e., average or marginal); the study period; vendor discounts, if any; the cost of money; the date of the equipment prices to be used; and whether material or EF&I equipment prices should be used. The second category includes cost and investment data. These include annual charge factors; link lease expenses; capitalized right to use ("RTU") fees or other investments to be included; and the facility investments, by account (per mile and per termination). The third category relates to information about the equipment or network. For example, this would include information about the equipment configuration; optional equipment; the number of links or link terminations; the number of miles and terminations of links (by link type); and the engineered occupancy of links. For some of the above information, data which is specific to each study area is required.

The final category includes information required for utilization calculations. These data are compiled for each of several study years in the study period, as well as for each study area and link type. It includes service demands, number of links or STP link terminations, and, for shared processors on STPs, switch utilization of the processor.

A CCSCIS model study can include calculations of costs for a specific piece of STP/SCP equipment, or for all or part of a

CCS link network. Study outputs incorporate the unit investments or costs of individual components or functions of the equipment. Output reports take into account the cost of transporting one octet (8 bits) of an SS7 message on various types of links; the cost of processing one octet of a message by STP link termination equipment; the cost of processing special types of messages (database queries of various services, global title translations, and gateway screening); the costs of storing database records in SCPs; and the costs of terminating SS7 links on STPs.

The development of CCS-based service costs requires a combination of costs for each piece of CCS equipment used to provide the service. If multiple STPs or SCPs are used to provide the service, weighted averages of these costs can be calculated with the CCSCIS Aggregation Model using weights derived from user data entered in the individual studies; however, Bell Atlantic uses its own aggregation model for the aggregation process. The costs of each type of equipment (regional or local STPs, SCP, or links) are combined using network parameters entered by users or derived from input data. The outputs of the aggregation process are combined unit investments and unit costs, where the latter are unit investments multiplied by annual charge factors of SS7 messages used for circuit-based services, database services, or trunk signaling. Database service outputs represent either costs of equipment used for Bell Atlantic queries, or for queries between unaffiliated networks. These unit cost outputs are transformed into costs for services when they are multiplied by the numbers of units used (octets, GTTs, queries, etc.) and summed over cost categories.

ATTACHMENT B

PART 32 ACCOUNTS USED FOR INVESTMENT

Rate Element	*Cost Study CCSCIS/Other*	*Part 32 Account Nos.*	*Account Titles*
Facilities and Transmission Lines (STP to SCP)	CCSCIS	2232	Circuit Equipment/Fiber
	CCSCIS	2411	Poles
	CCSCIS	2421	Aerial Cable
	CCSCIS	2422	Underground Cable
	CCSCIS	2441	Conduit Systems
SCP (Database)	Company Study	2124	DBAS II Computer
	CCSCIS	2212	Digital Switch
	Company Study	2232	Circuit Equipment/Fiber
	Company Study	2411	Poles
	Company Study	2421	Aerial Cable
	Company Study	2422	Underground Cable
	Company Study	2423	Buried Cable
	Company Study	2441	Conduit Systems
STP Port (Termination at the STP)	CCSCIS	2212	Digital Switch
	Company Study	2232	Circuit Equipment/Fiber
Transmission Facility to the STP		Not Applicable	This rate is cross referenced from Bell Atlantic's standard Special Access charge for a 56 kbps DDS service.

ATTACHMENT C

TOTAL INVESTMENT BY RATE ELEMENT	
Rate Element	*Total Investment*
Facilities and Transmission Lines Lines (STP to SCP)	$ 9,941.18
SCP (Database)	$6,550,428.96
STP Port (Termination at the STP)	$ 25,407.51
Transmission Facility to the STP	Not Applicable

ATTACHMENT D

The following explains the development of Bell Atlantic's ACFs for capital costs and operating expenses and the overhead loadings that were used to develop the CCS and LIDB costs.

Annual Cost Factors ("ACFs") for Capital Costs and Operating Expenses

The ACFs for capital costs and operating expenses are the recurring direct costs that must be recovered for a particular investment and consist of two major components, capital costs and operating expenses. Application of the ACFs is shown on Workpapers F-1 through F-6.

Capital Costs - The capital costs are a function of the investment in central office and transport equipment required to provide these service, and consist of depreciation, cost of money and income taxes.

Direct cost factors were applied to unit investments for each account by rate element. These unit investments reflected only the cost of the switching, transport and computer equipment, and did not include land, buildings, power and common equipment or Telephone Company engineering and labor where applicable. These costs were added through "loadings" in the direct cost factors, which were applied to the switching, transport and computer equipment unit investment. Bell Atlantic included these "loaded" unit investments in its calculations.

Capital Costs: Depreciation - Two types of depreciation are involved in the determination of recurring capital costs -- book depreciation and tax depreciation.

Book depreciation is the repayment of invested capital and is a direct component of capital costs. Tax depreciation is the schedule of expense deductions used in determining income taxes. While tax depreciation is not a direct component of capital costs, it is used in the formula for computing income taxes, which are themselves a direct component of capital costs. Tax depreciation is discussed below. Book depreciation is based on total investment in assets less future net salvage, and estimated economic life characteristics. Book depreciation is calculated by plant account and jurisdiction on a straight-line basis using the equal life group ("ELG") method in combination with the FCC-prescribed depreciation parameters for life, salvage and mortality curve. These parameters were taken from Bell Atlantic's approved triennial depreciation studies, which were submitted to the FCC and state commissions.

Capital Costs: Cost of Money - The cost of money is determined by adding the weighted cost of debt to the weighted cost of equity and by multiplying the net investment base by the composite cost of money.

Capital Costs: Income Taxes - The third component of capital costs is the direct cost factor for income taxes, both state and federal. This factor is necessary to permit the company to earn

its authorized rate of return, which is based on after-tax earnings.

The income tax direct cost factor represents the amount by which revenues must be increased so that the amount remaining after payment of income taxes is sufficient to yield the authorized rate of return. Because the authorized return is based on investment, the income tax component is a capital cost item.

In computing the income tax direct cost factor, Bell Atlantic took into consideration the federal and state tax rates, as well as the effects of debt interest, tax depreciation and other factors. Tax depreciation is calculated separately from book depreciation because it differs in timing, amount and characteristics. In particular, some investment components that are included in book depreciation are not included in tax depreciation calculations. Examples include social security taxes (which are not used for tax depreciation purposes because they are tax deductible in the year incurred) and capitalized interest during construction (which is not used for tax depreciation purposes because interest is a deductible expense item in the year incurred).

Operating Expenses - Operating expenses include maintenance and administrative expense, and property and other taxes that are directly attributable to the class and plant used for switching and transport purposes.

Operating Expenses: Maintenance - Maintenance is a recurring expense associated with keeping facilities and investment in good operating condition. Maintenance includes general supervision,

engineering associated with maintenance work, labor and material costs incurred in the upkeep of plant, rearrangements and changes of plant, training of maintenance personnel, testing of equipment and facilities, and miscellaneous expenses such as tools and supplies. Also included in maintenance, when appropriate, are "right to use" fees, which are software licensing fees.

Maintenance factors were developed and applied to unit investments to compute recurring direct costs. The maintenance factors used in this filing are based on 1990 Part 32 investment and expense amounts. For example, digital switch investment is booked to Part 32 Account 2212.1, while related maintenance expenses are booked to Account 6212.1. The development of maintenance factors is illustrated by the development of a digital switch maintenance factor, which resulted from dividing digital maintenance expenses by the investment dollars. Similarly, a building maintenance factor was developed by dividing building maintenance expense by building investment. To continue these examples, because the switch and building maintenance components were based on 1990 costs, they were further adjusted by an inflation factor.

Operating Expenses: Administration - Administrative expenses are costs required to operate the business and deliver telecommunications services, and include the cost of administrative work functions such as planning, forecasting, rating, selling, accounting, etc., as well as the cost of carrying support investments and other miscellaneous items. These expenses cannot

be determined precisely on a product-by-product basis in company cost studies.

For each of its jurisdictions, Bell Atlantic performs annual administrative expense studies to estimate administrative costs associated with primary plant investments. The administrative factors used in this filing were developed from 1990 accounting data.

Operating Expenses: Other Taxes - Other taxes reflect taxes that municipalities and other taxing authorities levy against the value of property owned by Bell Atlantic. These taxes include property taxes and capital stock taxes, and they vary by state jurisdiction and type of investment. For example, in Pennsylvania, both capital stock taxes and property taxes are applicable to land and buildings whereas only capital stock taxes are applicable to other investments. The other tax factors were developed from 1990 Bell Atlantic Part 32 account data.

Overhead Loadings

Workpaper 6-9 of Bell Atlantic's Transmittal No. 476 provided the data used to determine the overhead loading factor; however, for the sake of convenience, it is resubmitted as Workpaper F-13.

As demonstrated on Workpaper F-13, the fully loaded overhead calculation for the direct investment contains two components. The first component, the fully loaded cost ("FLC") factor, is developed by using the relationship of total Bell Atlantic local transport revenues to local transport investment. 1990 ARMIS data were used to calculate the local transport revenues and as a source for the

investment amount. The second component, the ACF, represents the composite direct costs that must be recovered for a particular investment. The relationship between the transport FLC factor and ACF was calculated and applied to the direct unit costs to arrive at fully loaded costs.

ATTACHMENT E

This attachment explains the workpapers provided in Attachment F which document and support the data provided for Bell Atlantic's Billing Validation Service. In some cases, these workpapers revise data submitted in Transmittal No. 476 to correct inadvertent typographical errors.

Workpapers F-1 through F-6 apply annual cost factors, broken down into the six cost components, to unit investment on an account- and jurisdiction-specific basis. The six cost components are then summed to determine the direct cost.

Workpapers F-7 and F-8 display methodology used to calculate the weighted average Bell Atlantic STP costs. Workpapers F-9 through F-16 are equivalent to workpapers 6-1 through 6-16 in Trans. No 476 and contain Bell Atlantic costs and ratios for STP Port Termination, Query Transport and Validation. Any additional expense items associated with the rate element are then added to the direct cost after the cost to investment ratio was calculated.

Workpapers F-14 through F-16 display the application of the Fully Loaded Cost factors for purposes of rate development. Finally, the direct cost to rate ratios were determined.

Workpaper F-17 shows the net revenue test. Those rate elements that were filed as restructured services have not been modified, and therefore Workpapers 6-17 through 6-20 have not been resubmitted.

ATTACHMENT F

INDEX OF WORKPAPERS

Workpaper No.	*Description*	*Replaces*
F-1	ACF Development - DC	N/A
F-2	ACF Development - PA	N/A
F-3	ACF Development - MD	N/A
F-4	ACF Development - VA	N/A
F-5	ACF Development - WV	N/A
F-6	ACF Development - NJ	N/A
F-7	Direct Cost Development (by jurisdiction) STP Port Termination - Digital Termination	N/A
F-8	Direct Cost Development (by jurisdiction) STP Port Termination - STP Processor	N/A
F-9	Direct Cost Development (Bell Atlantic total) STP Port Termination	6-1
F-10	Direct Cost Development Query Transport	6-2
F-11	Direct Cost Development BVS Validation	6-3
F-12	Cost Development, Ratio Calculations Establishment Charge	6-4
F-13	FLC Ratio Development	6-9
F-14	FLC Ratio Calculations STP Port Termination	6-10
F-15	FLC Ratio Calculations BVS Query Transport	6-11
F-16	FLC Ratio Calculations BVS Validation	6-12
F-17	Net Revenue Test	6-13..6-16

BELL ATLANTIC

WORKPAPER F-1

LINE INFORMATION DATA BASE
DIRECT COSTS DEVELOPMENT

STUDY AREA: D.C.

DIRECT COST FACTORS	Poles 2411 A	Conduit 2441 B	Aer. Cable 2421 C	Und. Cable 2422 D	Cir. Equip 2232 E	Dig. Switch 2212 F	Bur. Cable 2423 G	Computer 2124 H
1 DEPRECIATION	N/A	N/A	N/A	N/A	0.1257	0.0789	N/A	N/A
2 COST OF MONEY	N/A	N/A	N/A	N/A	0.1195	0.1277	N/A	N/A
3 INCOME TAX	N/A	N/A	N/A	N/A	0.0604	0.0635	N/A	N/A
4 MAINTENANCE	N/A	N/A	N/A	N/A	0.0236	0.1234	N/A	N/A
5 ADMINISTRATION	N/A	N/A	N/A	N/A	0.0592	0.0725	N/A	N/A
6 OTHER TAX	N/A	N/A	N/A	N/A	0.0030	0.0033	N/A	N/A
7 TOTAL	N/A	N/A	N/A	N/A	0.3914	0.4693	N/A	N/A

DIRECT COST COMPONENTS

STP Port Termination	Source	Poles 2411 A	Conduit 2441 B	Aer. Cable 2421 C	Und. Cable 2422 D	Cir. Equip 2232 E	Dig. Switch 2212 F	Bur. Cable 2423 G	Computer 2124 H
8 UNIT INVESTMENT	CCSCIS and Comp. Study	N/A	N/A	N/A	N/A	$630.18	$14,057.00	N/A	N/A
9 DEPRECIATION	L1*L8	N/A	N/A	N/A	N/A	$79.21	$1,109.10	N/A	N/A
10 COST OF MONEY	L2*L8	N/A	N/A	N/A	N/A	$75.31	$1,795.08	N/A	N/A
11 INCOME TAX	L3*L8	N/A	N/A	N/A	N/A	$38.06	$892.62	N/A	N/A
12 MAINTENANCE	L4*L8	N/A	N/A	N/A	N/A	$14.87	$1,734.63	N/A	N/A
13 ADMINISTRATION	L5*L8	N/A	N/A	N/A	N/A	$37.32	$1,019.13	N/A	N/A
14 OTHER TAX	L6*L8	N/A	N/A	N/A	N/A	$1.89	$46.39	N/A	N/A
15 TOTAL	SUM L9..L14	N/A	N/A	N/A	N/A	$246.67	$6,596.95	N/A	N/A

BELL ATLANTIC

WORKPAPER F-2

LINE INFORMATION DATA BASE
DIRECT COSTS DEVELOPMENT

STUDY AREA: PA

	Poles	Conduit	Aer. Cable	Und. Cable	Cir. Equip	Dig. Switch	Bur. Cable	Computer
	2411	2441	2421	2422	2232	2212	2423	2124
DIRECT COST FACTORS	A	B	C	D	E	F	G	H
1 DEPRECIATION	0.0975	0.0282	0.0649	0.0513	0.1102	0.0884	0.0000	0.1947
2 COST OF MONEY	0.1079	0.1063	0.1110	0.1123	0.1121	0.1204	0.0000	0.1067
3 INCOME TAX	0.0567	0.0608	0.0585	0.0592	0.0539	0.0609	0.0000	0.0560
4 MAINTENANCE	0.0131	0.0187	0.0096	0.0074	0.0563	0.1015	0.0000	0.1431
5 ADMINISTRATION	0.0309	0.0309	0.0309	0.0309	0.0373	0.0401	0.0000	0.0460
6 OTHER TAX	0.0018	0.0018	0.0018	0.0018	0.0031	0.0035	0.0000	0.0035
7 TOTAL	0.3079	0.2467	0.2767	0.2629	0.3729	0.4148	0.0000	0.5500

DIRECT COST COMPONENTS		Poles	Conduit	Aer. Cable	Und. Cable	Cir. Equip	Dig. Switch	Bur. Cable	Computer
STP Port Termination	Source	2411	2441	2421	2422	2232	2212	2423	2124
		A	B	C	D	E	F	G	H
8 UNIT INVESTMENT	CCSCIS and Comp. Study	N/A	N/A	N/A	N/A	$434.91	$22,061.37	N/A	N/A
9 DEPRECIATION	L1*L8	N/A	N/A	N/A	N/A	$47.93	$1,950.23	N/A	N/A
10 COST OF MONEY	L2*L8	N/A	N/A	N/A	N/A	$48.75	$2,656.19	N/A	N/A
11 INCOME TAX	L3*L8	N/A	N/A	N/A	N/A	$23.44	$1,343.54	N/A	N/A
12 MAINTENANCE	L4*L8	N/A	N/A	N/A	N/A	$24.49	$2,239.23	N/A	N/A
13 ADMINISTRATION	L5*L8	N/A	N/A	N/A	N/A	$16.22	$884.66	N/A	N/A
14 OTHER TAX	L6*L8	N/A	N/A	N/A	N/A	$1.35	$77.21	N/A	N/A
15 TOTAL	SUM L9..L14	N/A	N/A	N/A	N/A	$162.18	$9,151.06	N/A	N/A

		Poles	Conduit	Aer. Cable	Und. Cable	Cir. Equip	Dig. Switch	Bur. Cable	Computer
BVS Validation	Source	2411	2441	2421	2422	2232	2212	2423	2124
		A	B	C	D	E	F	G	H
16 UNIT INVESTMENT	CCSCIS and Comp. Study	$2.40	$11.99	$14.06	$34.89	$521.00	$38.62	$0.00	$2,936,452
17 DEPRECIATION	L1*L16	$0.23	$0.34	$0.91	$1.79	$57.41	$3.41	$0.00	$571,727
18 COST OF MONEY	L2*L16	$0.26	$1.27	$1.56	$3.92	$58.40	$4.65	$0.00	$313,319
19 INCOME TAX	L3*L16	$0.14	$0.73	$0.82	$2.07	$28.08	$2.35	$0.00	$164,441
20 MAINTENANCE	L4*L16	$0.03	$0.22	$0.13	$0.26	$29.33	$3.92	$0.00	$420,206
21 ADMINISTRATION	L5*L16	$0.07	$0.37	$0.43	$1.08	$19.43	$1.55	$0.00	$135,077
22 OTHER TAX	L6*L16	$0.00	$0.02	$0.03	$0.06	$1.62	$0.14	$0.00	$10,278
23 TOTAL	SUM L17..L22	$0.74	$2.96	$3.89	$9.17	$194.28	$16.02	$0.00	$1,615,049

		Poles	Conduit	Aer. Cable	Und. Cable	Cir. Equip	Dig. Switch	Bur. Cable	Computer
Query Transport	Source	2411	2441	2421	2422	2232	2212	2423	2124
		A	B	C	D	E	F	G	H
24 UNIT INVESTMENT	CCSCIS	$0.000010	$0.000048	$0.000056	$0.000140	$0.106112	N/A	N/A	N/A
25 DEPRECIATION	L1*L24	$0.000001	$0.000001	$0.000004	$0.000007	$0.011694	N/A	N/A	N/A
26 COST OF MONEY	L2*L24	$0.000001	$0.000005	$0.000006	$0.000016	$0.011895	N/A	N/A	N/A
27 INCOME TAX	L3*L24	$0.000001	$0.000003	$0.000003	$0.000008	$0.005719	N/A	N/A	N/A
28 MAINTENANCE	L4*L24	$0.000000	$0.000001	$0.000001	$0.000001	$0.005974	N/A	N/A	N/A
29 ADMINISTRATION	L5*L24	$0.000000	$0.000001	$0.000002	$0.000004	$0.003958	N/A	N/A	N/A
30 OTHER TAX	L6*L24	$0.000000	$0.000000	$0.000000	$0.000000	$0.000329	N/A	N/A	N/A
31 TOTAL	SUM L25..L30	$0.000003	$0.000012	$0.000015	$0.000037	$0.039569	N/A	N/A	N/A